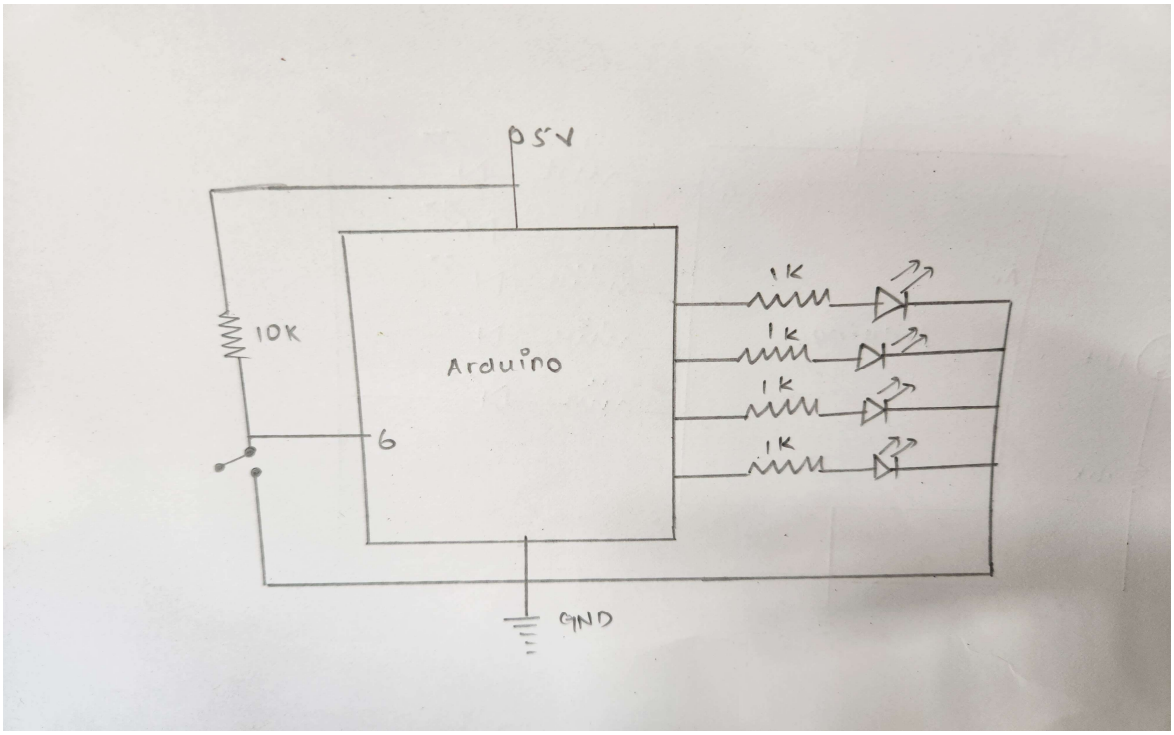
```
/*

Experiment No. :    06
Statement      : Design a 4-Bit counter

Date of Exp.   :    xx/xx/xxxx

Author         :    Mansi Mandhane (A-24)
*/

const int ledPins[] = {2, 3, 4, 5};  // Change these pins as per
your setup

const int switchPin = 6;               // Change this pin as per
your setup

int counter = 0;

int switchState = 0;

int lastSwitchState = 0;


void setup() {

// Initialize LEDs as outputs

for (int i = 0; i < 4; i++) {

pinMode(ledPins[i], OUTPUT);

}

// Initialize switch as input

pinMode(switchPin, INPUT_PULLUP);


// Set initial state of LEDs

updateLEDs();

}

void loop() {

// Read the state of the switch
```

```
switchState = digitalRead(switchPin);

// Check if the switch state has changed
if (switchState != lastSwitchState) {
if (switchState == HIGH) {
// Increment the counter when the switch is pressed
counter = (counter + 1) % 16;
updateLEDs();
}
delay(50); // Debounce delay
}

// Save the current switch state for comparison
lastSwitchState = switchState;
}

// Function to update LEDs based on the current counter value
void updateLEDs() {
for (int i = 0; i < 4; i++) {
digitalWrite(ledPins[i], bitRead(counter, i));
}
}
```




```
//Display of 2 & 4
```